1: Conzemius M-4, 5 (1921) 1932
SA15 Mosquito SA15

and rabbits. The raccoon, the coati or pisote, the weasel, the skunk, and the kinkajou are met with in the forests and the otter exists in all the streams.

Alligators and a small species of crocodile infest the rivers, lagoons, and swamps. Several varieties of river turtles or tortoises occur, while the valued hawk's bill, the green turtle, and the loggerhead are caught in the sea. The largest lizards are the iguanas, which occur in several eatable varieties. Poisonous and harmless snakes are numerous.

Man-eating sharks and sawfishes are found in the sea and in the lower course of the streams.

The "john crow" or turkey buzzard is a useful scavenger. During the winter months many of the common North American birds arrive as immigrants and spend the cold season in this mild climate. Guans, curassows, mountain hens, wild ducks, and pigeons are esteemed as food. Trogons, orioles, toucans, tanagers, macaws, parrots, parrakeets, and humming birds make themselves conspicuous by their plumage or by their song. Flamingos, white egrets, and herons are found chiefly around the lagoons and swamps.

The mosquitoes are the propagators of malaria, while red bugs, ticks, cockroaches, jiggers, sandflies, and screw worms are largely responsible for the prevailing skin troubles.

INHABITANTS.—The humid tropical climate, combined with the jungle vegetation, have retarded settlement and the building up of a dense population. The bulk of the inhabitants of the Mosquito Coast are found along the seashore and on the lower part of the larger rivers.

Besides the *Miskito* and *Sumu*, with whom the present monograph will deal, two other Indian tribes inhabit the Mosquito Coast, the *Paya* and *Rama*. The former live in Honduras between Rio Patuca and Rio Sico. Their number is estimated at about 700 and they are dying out rapidly (vide Conzemius, b). The Rama tribe, the bulk of which lives on Rama Key in Bluefields Lagoon, numbers only about 200. Its language is of Chibcha stock and is closely allied to those spoken by the aborigines of Costa Rica, Panama, Colombia, and northern Ecuador (vide Conzemius, c). The western portion of the Mosquito Coast was formerly occupied by the *Matagalpa*, whose language has been extinct for nearly half a century; a dialect of it is still spoken to this day in the villages of Cacaopera and Lislique (Salvador). A number of other tribes have been reported from the country under consideration in former days, but as they have been extinct for some time it has been impossible to classify them. Some of the tribal designations applied by the early authors are merely derived from the rivers upon which the tribes lived.

From Rio Tinto northward along the sea and lagoons live the so-called *Black Carib* or *Garif*. These are the descendants of the

1: Conzemius M-4, 5 (1921) 1932
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TEETH.—Formerly the Sumu used to file or rather chip their teeth to sharp points; this was a laborious process and was performed by placing a dull knife against the back of the tooth, while the front of it was tapped with a stone implement.

EARS.—In 1502, on the testimony of Columbus, certain of the coastal tribes living to the west of Cabo Gracias a Dios, whether Miskito or Paya is uncertain, distended their ears to such an extent "that they might put a hen's egg into them." This statement is confirmed nearly two centuries later by Exquemelin (Sp. ed.: 185; Engl. ed.: 102; French ed.: I, 294–295), who states that the Indians of Rio Xagua (Rio Aguan) on the coast of Honduras were called by the buccaneers "Great Ears" on account of their extraordinary and large ears. Dampier (I, 32) also mentions a curious manner of ear deformation current among the Kukra of Corn Islands during the latter half of the seventeenth century. Both sexes from these islands had their ear lobes pierced during childhood; "by continually stretching with great pegs the opening became as large as a milled five-shilling piece." They wore therein round, smooth pieces of wood, "so that their ears seemed to be all wood with a little skin about them."

LEGS.—From the days of early infancy the Sumu females tie a narrow piece of cotton cloth firmly above the ankle and again below the knee. These bands, if ever removed, are immediately replaced by others. As a result of this custom the parts of the legs thus constricted are very thin, being hardly thicker than the actual bone, whereas the muscles of the calf bulge out to an abnormal degree. This custom, which was observed already by Dampier (I, 32) among the Kukra of the Corn Islands during the latter half of the seventeenth century, is also current among many Carib tribes of South America. Similar bands are occasionally worn by the females at the wrist and below the elbow, but here they serve merely the purpose of ornamentation.

VARIOUS.—Circumcision is said to have been practiced in former days by some of the Sumu tribes, but the writer was unable to obtain any details regarding that custom. Until quite recently the face of the young Sumu was also scarified.

DWELLINGS

VILLAGES.—The villages (M.: *tāuan*, from the English "town"; S.: *asaŋ*) are constructed generally along the waterways, as the sea, lagoons, or rivers, which form the principal means of communication. The Miskito of the lower Rio Coco and of certain parts of the Nicaragua coast have some large villages with from 100 to 500 inhabitants, but the Sumu settlements consist of only two to six huts and count from 6 to 25 inhabitants. On account of the danger from floods the inland villages are often perched upon high banks of the stream.

2: Kirchhoff E-4 (no date) 1948
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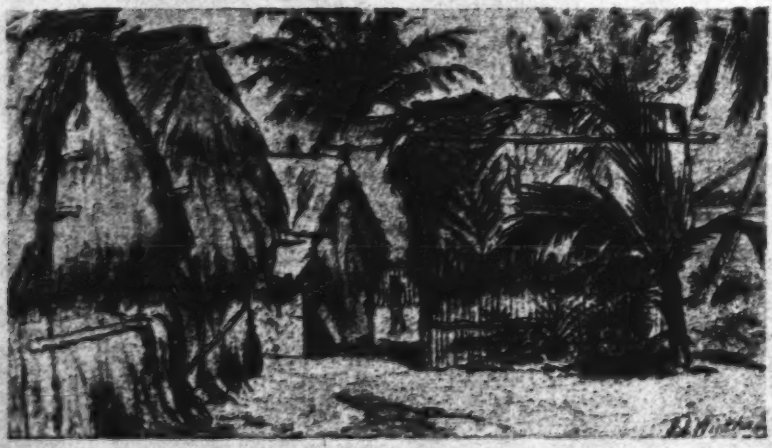

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PLATE 35.—Sumo and Mosquito Indians, Nicaragua. *Top: Sumo* man. *Bottom: Mosquito* village, Pearl Lagoon. (Courtesy American Museum of Natural History.)

[p. 228 -A]

3: Pijoan D-5 (ca. 1945) 1946

SA15 Mosquito SA15

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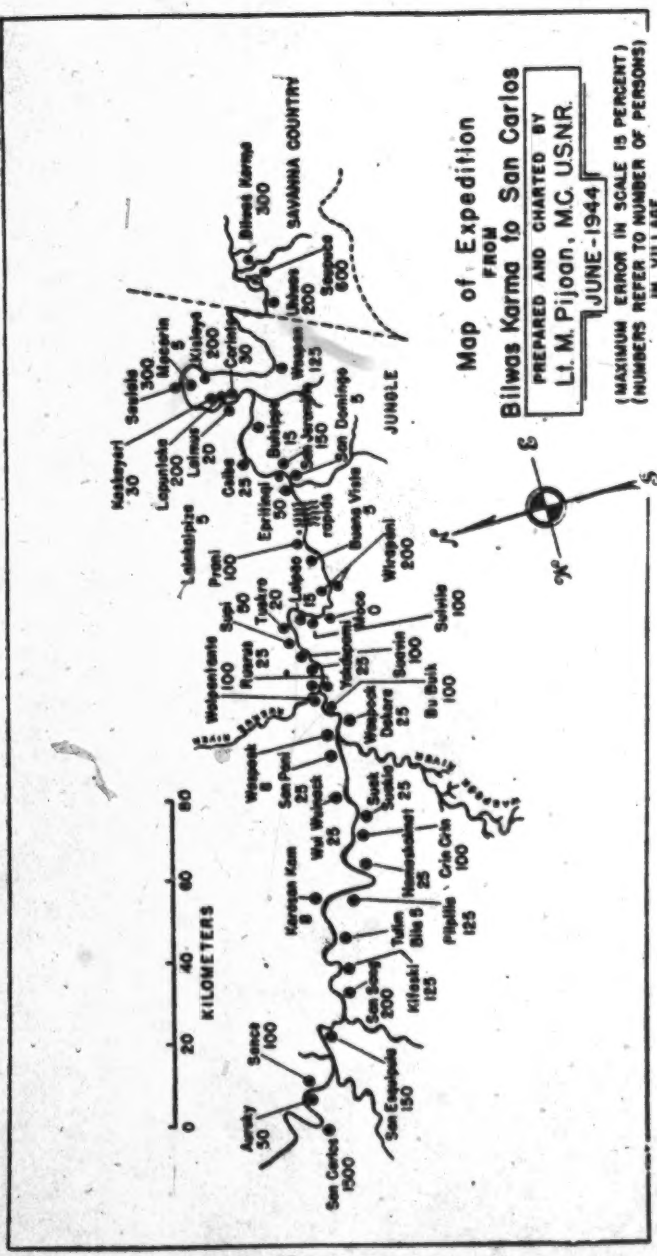

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3: Pijoan D-5 (ca. 1945) 1946
SA15 Mosquito SA15

ralization can be directly applied to diets in the tropics: the galaxy of nutritional factors are determined by the local situation and the food habits of the people.

The same can be said of tropical infectious disease. The variety of vectors, their ecological relations to circumstances determined by altitude, rains, swamps, climate and vegetation limit disease entities to special regions even though many diseases occur throughout the world. It must be remembered that to the diseases generally present among people are added those which are peculiar to a new environment and that modifications of a disease can take place. For instance, whooping cough is a serious disease attended with a high mortality rate in Central Nicaragua, whereas scarlet fever produces a mild disease often unrecognized. Whether the host or the organism is responsible for such a condition is not known and the problem of host and parasite interrelationships becomes a complex one.

THE MOSQUITO AREA: THE LOCAL SITUATION

The vast region on the Atlantic side of Nicaragua and Honduras is known by the name of Mosquito coast. It is inhabited buy four different tribes of Indians: The Miskito, the Suma (Sumu), the Paya, and the Rama. In some localities the Miskito, often incorrectly called Mosquito, have a considerable admixture of Negro blood and, for this reason, are in some places called Zambos. The other three tribes, however, are practically of pure Indian blood. In earlier times, the western region of the Mosquito coast was occupied by the Matagalpa Indians, whose language extended over a large area in Nicaragua and Honduras, but has been extinct for nearly half a century. However, a dialect of its is spoken to this day by the older inhabitants of the Salvadorean villages of Cacaopera and Lislique. Today the Indian languages of the area are somewhat interrelated, especially Matagalpa, Miskito, and Suma; Paya is an unrelated language.

The Miskito and small isolated bands of Suma Indians inhabit the eastern side of Honduras and Nicaragua. They are found from the Río Tinto (lat. 15° 50′ N.) to Río Punta Gorda (Lat. 11° 30′ N.). The villages are located chiefly along the banks of the rivers as far up as the headwaters within the jungle proper. The Suma Indians are found primarily in the interior; they are somewhat uncommunicative, but cooperative. The Miskito are self-sustaining and at times derive additional income from labor with fruit companies, mining enterprises and rubber collecting agencies. Today they play an important part in the wild rubber collection program.

3: Pijoan D-5 (ca. 1945) 1946

SA15 Mosquito SA15

The Miskito Indians, numbering about 20,000, are a mixed race, since there has been much inter-marrying with negroes, creoles, Spaniards, Caribs, Sumu, Syrians and Chinese. About one-half of them have negroid physical characteristics, another third non-specific physical features and a few appear to be of pure Indian blood. There is, however, the same behavior pattern in all of them; they live together and there is no cultural differentiation on a physical basis. The culture and language are predominantly Indian, though some of them speak a little English or Spanish. The name "Mosquito Coast" may have been derived from the Indian tribe, the Miskito, or it may have been derived from the numerous mosquitoes found in the area.

The climate is humid and tropical. The average temperature along the seacoast rarely registers below 65° F. or above 90° F. Such pleasant temperatures are due to the trade winds that blow fairly steadily for about seven months of the year. From Bilwas Karma inland, the heat is intense, humid, and at times unbearable. At higher altitudes near the headwaters of the Coco (or Wanks) River, conditions are less severe. The whole area is well watered by many streams which empty into the larger rivers, which in turn drain into the Caribbean sea. In the jungle area these rivers are the only means of communication or transport. During flood times the rivers rise tremendously, often as much as thirty feet in a single night, the crumbling banks bringing down trees and everything along the edge. For this reason the villages are built high up on the banks and usually some distance from the stream. The average rainfall is reported to vary from 250 to 320 inches a year. There are two dry and two set seasons each year, but these conditions are only relative, since it is always humid in the interior. The dryest seasons are from about March to May and from late August to early October. The remainder of the time it rains almost incessantly, sometimes all day. In the dry season light showers occur frequently. These geophysical conditions contribute significantly to the food-agricultural status of the people.

Geographically the area can be divided as follows: along the seashore it is sandy, with an inland belt of about twenty miles, consisting of swamps; then an area fifty to one hundred miles wide of intermittent savannah, and finally the thick, dense, somewhat impenetrable jungle which covers everything, even the mountains. Violent winds and hurricanes are not infrequent.

Besides the Miskito and the Sumu, two other Indian tribes, the Paya and the Rama, live in eastern Nicaragua. The population of these tribes is unknown, but it is considered to be about 500. Conzemius[1] reported in 1932 that they numbered about 700 but stated that they

3: Pijoan D-5 (ca. 1945) 1946
SA15 Mosquito/SA15

of quarrel between two women. The fact remains that very little wrong-doing exists among the Miskito since once a wrongdoer is found out he loses the respect of his community and usually moves to another locality. It a debtor refuses to pay or refund an object or money borrowed, the creditor informes the village of this fact and he can go to the plantation of the debtor and pay himself in provisions without risk. Such pressure usually causes the debtor to make goods his debt.

In rare cases today poisoning is used to exterminate an enemy. This is accomplished by the use of poisonous extracts from plants, alligator gall, or cyanide stolen from the mines. If, however, an Indian shoots his enemy, he must likewise follow him to death. In certain cases, if an Indian has been insulted and cannot collect payment, he commits suicide, wherepon the offender must do the same. In most instances the threat in itself brings apology and payment. In general there is little crime among the Miskito.

The Indians show great reserve, are relatively silent, honest and generally reliable. Stinginess is considered the worst vice and foreigners who bestow gifts are known as good men. They are not quarrelsome. Recent contacts with foreigners has increased their shrewdness and they are less shy than they were years ago.

Members of the family address each other according to sex and relation, such as mother, father, daughter, brother, etc. Each has a name given for some peculiarity. Thus, an infant receives no name until some characteristic is noted.

The mentioning of a deceased person's name is taboo and is a direct insult to refer to the person in the presence of relatives. Husband and wife call each other *mayi*, my consort; before a child is born to them he calls her *kika*, girl, while she calls him *wahma*, young man. After a child is born they often call each other *luhpi yapti*, my child's mother, and *luhpi aisa*, my child's father. *Mahma* or *masa* are used to address a son or brother, whereas *kika* or *misis* refer to daughter or sister. Old men and women are called *dama*, grandfather, and *kuka*, grandmother. The common form of salutation is *naksa* and occasionally *nahki sma* (how are you?) The other replies *aiñwa sna* (I am well). When they take leave the expression is *aisabi* (we will speak again).

DWELLINGS

The villages *(tawan)* are located chiefly on the banks of waterways, rivers and lagoons. The reason for this may be twofold. First the waterways form the chief source of transportation by boat and secondly agriculture and wild fruits can be developed and secured near

3: Pijoan D-5 (ca. 1945) 1946
SA15 Mosquito SA15

361 streams. The villages and their populations were studied from Bilwas Karma to San Carlos. (See map.) The villages themselves are perched up high on the banks so that floods will not carry them away.

342 Once a house site has been determined the Indians clear the bush and all large trees, that may endanger the house in case of storms, are felled. The house is usually of rectangular design. Four posts or more are used to hold up a sharp sloping thatched palm leaf roof *(bahna)*. In many houses these roofs extend to about five feet off the ground. The posts are usually of ironwood. Several varieties are used for thatching. [824] such as the *cohune (Attalea cohune)*, *skomphora*, *cola de gallo* or *suita (Calyptrogyne sarapiquensis)* and *ceña danta (Geonoma* sp.). These palm leaves may last from for to five years as a roof. Although many Indians use nails today, lianas are still used to bind these structures together. The sides of the houses may be made of split bamboo or boards. Most houses have a sort of loft *(tint)* immediately beneath the roof. It is formed by laying split bamboo or boards across the beams and is reached with the use of a ladder. Various forms of bamboo wattlework may make up the interior walls. Most of the dwellings seen have the floor elevated from the ground at a distance of three to four feet. Thus the houses appear to be set on a series of stilts.

Formerly long communal houses or multiple family houses were used by tribes. Today this practice is abandoned and the family type house is what is found. It must be noted, however, that although many houses are raised from the ground, one occasionally encounters a more primitive dwelling where the family live directly on the ground clay with just a low overhanging roof for protection. But this process can only serve as a temporary shelter since the torrential rains would quickly wash away the household effects.

352 Iron stoves for cooking are common in most houses and in some cases [343] the stove is in a separate house (cookhouse). Many old crates, wooden [354] boxes, and bamboo devices are used for tables and chairs. Beds are made of split bamboo and are raised on posts two to three feet from the floor. Recently hammocks have become popular in the area. They may be purchased from the traders or hand made with cotton, tree bark or Bromelia fibers. Small hammocks are used for children.

[373] Pine wood torches are used for illumination at night and in some cases fiber clusters are impregnated with oils or waxes and lit up. Under the roof the fishing, hunting and agricultural implements are kept.